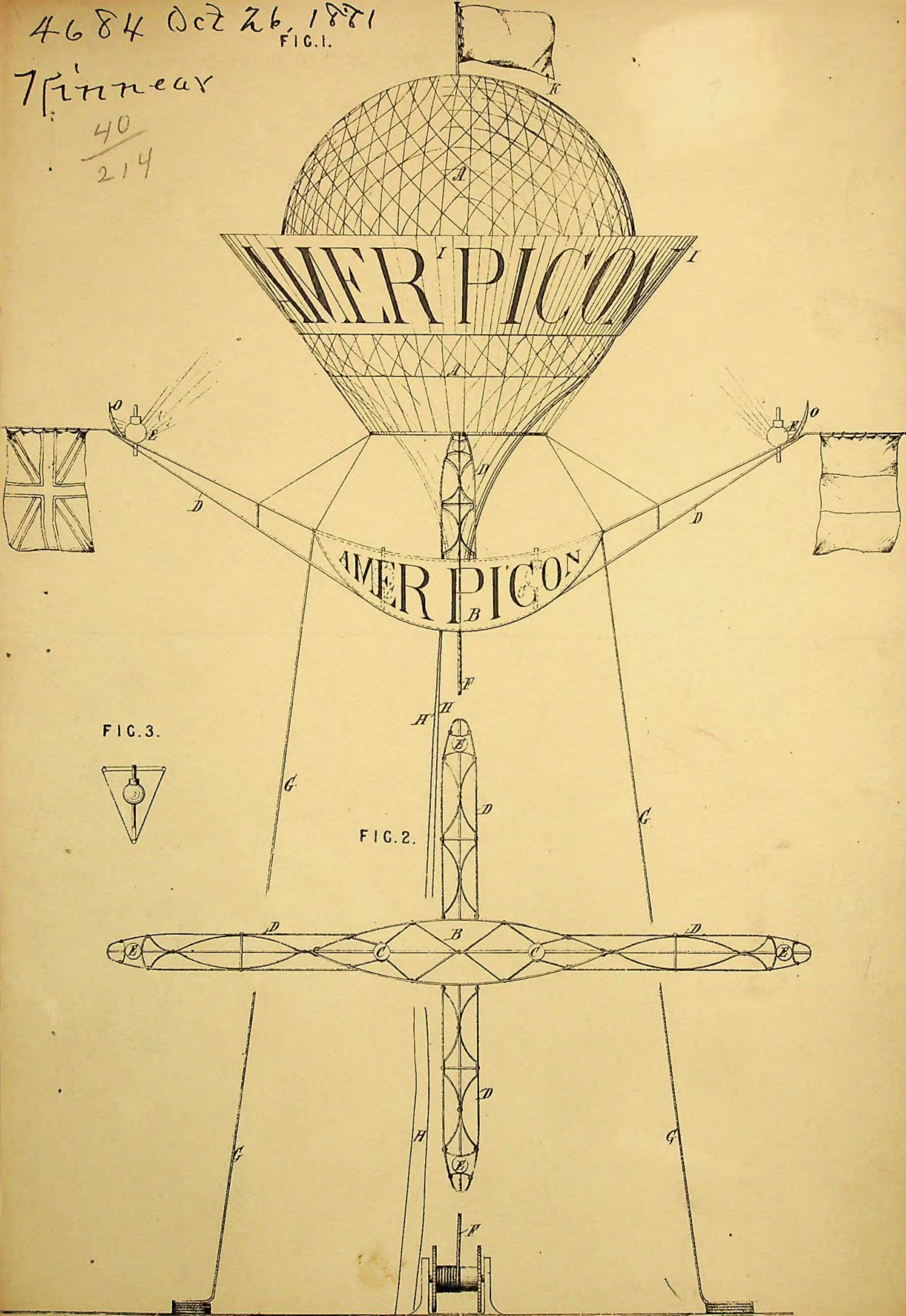


4684 Oct 26, 1881

FIG. 1.

Tinnear

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A.D. 1881, 26th OCTOBER. N° 4684.

### Balloons for Illumination.

LETTERS PATENT to Frederick Constantine Kinnear, of Coleman Street, in the City of London, for an Invention of "IMPROVED APPLIANCES FOR OR IN CONNECTION WITH BALLOONS, PARTICULARLY APPLICABLE FOR ILLUMINATING AND SIGNALLING PURPOSES."

PROVISIONAL SPECIFICATION left by the said Frederick Constantine Kinnear at the Office of the Commissioners of Patents on the 26th October 1881.

FREDERICK CONSTANTINE KINNEAR, of Coleman Street, in the City of London  
5 "IMPROVED APPLIANCES FOR OR IN CONNECTION WITH BALLOONS, PARTICULARLY APPLICABLE FOR ILLUMINATING AND SIGNALLING PURPOSES."

The object of this Invention is to construct or provide balloons, especially the so called captive balloons with certain improved appliances in the manner herein-after described.

10 The balloon proper used for the purpose of this Invention may be of any ordinary form and material, and in some cases, for greater security, be divided into two or more compartments or parts. The car is for lightness and safety made of light waterproof material, and with whalebone or other strong and light framing, but with proper disconnectible ballasting, thus affording security in case the balloon  
15 falls into the sea. In connection with the balloon, and according to the first part of my Invention, I employ suitable framework which may be in the form of a girdle round the balloon, and on which I cause a strong light to be projected for the purpose of displaying devices for signalling purposes and the like; the framework may be arranged as transparencies. The light employed is the electric  
20 light, and according to this Invention two or more electric lamps are used. The Invention further consists in the employment of jibs or frames projecting some

[Price 6d.]



*Kinnear's Improvements in Balloons for Illumination, &c.*

distance from the car, and made by preference of bamboo, and having adjustable reflector appliances, and serving to carry the said lamps.

I supply the electricity from secondary batteries or storage reservoirs in the car; these batteries are charged from a generator when on the earth; or in case of a captive balloon the batteries or the lamps themselves are charged or supplied 5 with electricity as required by means of an electric conductor or cable which is carried up along the rope. By suitable adjustable deflecting appliances on the car a strong light may also be thrown on to any object on the earth. For signalling from the balloon, in case it is employed for military or scientific purposes, I employ 10 by preference revolving or flash signals in connection with the electric light.



A.D. 1881.—N° 4684.

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Specification.

*Kinnear's Improvements in Balloons for Illumination, &c.*

SPECIFICATION in pursuance of the conditions of the Letters Patent filed by the said Frederick Constantine Kinnear in the Great Seal Patent Office on the 26th April 1882.

FREDERICK CONSTANTINE KINNEAR, of Coleman Street, in the City of London.  
5 "IMPROVED APPLIANCES FOR OR IN CONNECTION WITH BALLOONS, PARTICULARLY APPLICABLE FOR ILLUMINATING AND SIGNALLING PURPOSES."

The object of this Invention is to construct or provide balloons, especially the so called captive balloons, with certain improved appliances in the manner hereinafter described. The balloon proper used for the purpose of this Invention may be of any ordinary form and material, and in some cases, for greater security, be divided into two or more compartments or parts. The car is for lightness and safety made of light waterproof material, and with whalebone or other strong and light framing, but with proper disconnectible ballasting, thus affording security in case the balloon falls into the sea. In connection with the balloon, and according to the first part of my Invention, I employ suitable framework which may be in the form of a girdle round the balloon, and on which I cause a strong light to be projected for the purpose of displaying devices for signalling purposes and the like; the framework may be arranged as transparencies. The light employed is the electric light, and according to this Invention two or more electric lamps are used; the Invention further consists in the employment of jibs or frames projecting some distance from the car, and made by preference of steel or bamboo, and having adjustable reflector appliances and serving to carry the said lamps. I supply the electricity from secondary batteries or storage reservoirs in the car; these batteries are charged from a generator when on the earth; or in case of a captive balloon the batteries or the lamps themselves are charged or supplied with electricity, as required, by means of an electric conductor or cable which is carried up along the rope.

By suitable adjustable deflecting appliances on the car a strong light may also be thrown on to any object on the earth. For signalling from the balloon, in case it is employed for military or scientific purposes, I employ by preference revolving or flash signals in connection with the electric light.

In the accompanying Drawings I have shown an example of a captive balloon constructed according to my Invention.

Figure 1 is a side view of the balloon with car and other attachment; Figure 2 is a plan of the car, and Figure 3 a cross section through same.

The balloon A may be of any ordinary or suitable form and construction, and from it is suspended a car or frame work B, which for lightness and strength may be made of steel bands or tubes; this framing is covered on the sides with glazed calico or other suitable transparent fabric or material. The car or framing B serves to carry lamps C, C, in this case two in number, within it, for the purpose of illuminating the transparent covering just named, and on which any desired advertisement, letters, signs, or signals are displayed; from this car or framing B I also project jibs or frames D, in this case four in number, which for lightness and strength may be made of steel, and serve to support the lamps E. The balloon is held by the cable F, and stayed and held by three or more guy ropes. G, H, H, are the cables for the ascending and descending electric current, which serves to light the lamps; I is a girdle round the balloon, and consists of light framing covered with transparent material or fabric; this girdle is attached to the balloon netting, and on it are displayed any desired advertisement, letters, signs, or signals. The lamp C serves mainly to illuminate the framing B from within, and the lamps E serve mainly to illuminate the girdle I, but also the balloon itself. The



*Kinnear's Improvements in Balloons for Illumination, &c.*

lamps E should have reflectors O to throw the light upwards as required. In some cases and for smaller balloons I may use lamps lighted by means of gas conveyed thereto by a flexible tube, or I may use the "Brin" light, that is, gas and oxygen, each being conveyed to the lamps by flexible tube.

The balloon may be surmounted by a flag staff K, which is attached to the valve 5 piece; flags may also, as shown, be attached to the jibs D.

The car or framing B need not be of the shape shown, but may, for instance, be cylindrical in plan and with slanting sides. In some cases for very large balloons it may be formed with an inner basket or car proper for holding an attendant whose office it would be to change the advertisements or signals as required, or for 10 holding other persons also.

And having thus described and ascertained the nature of this Invention, and the mode in which the same may be carried into effect, I declare that I claim,—

First. The combination with a balloon of frame work appliances for the purpose of displaying advertisement signals, and other announcements by means of lamps 15 carried thereby, substantially as set forth.

Second. The construction of the frame work B, D, and I for carrying the said advertisements and lamps, substantially as shown on the accompanying Drawings.

In witness whereof, I, the said Frederick Constantine Kinnear, have hereunto set my hand and seal, this Twenty sixth day of April, in the year of 20 our Lord One thousand eight hundred and eighty two.

F. C. KINNEAR. (L.S.)

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1882.